



UK Health  
Security  
Agency

# Non-typhoidal *Salmonella* data 2009 to 2018

August 2021

National laboratory and outbreak data for residents of England

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## Main points for 2018

The main points of the 2018 report are:

- the number of reported *Salmonella* cases in England increased from 8,670 cases in 2017 to 8,838 cases in 2018, an increase of 168 cases
- from 2017 to 2018 there was an increase in reports of *Salmonella* Enteritidis from 2,324 to 2,589 and a decrease in reports of *Salmonella* Typhimurium from 1,965 to 1,913 reported cases
- the region that reported the highest number of *Salmonella* laboratory reports was London with 1,786 reports
- the age group with the largest number of laboratory reports was children below the age of 10
- September was the peak month for *Salmonella* reporting in 2018

# Salmonella laboratory data 2009 to 2018

All data presented in this report are correct as of 15 July 2021. This report covers all non-typhoidal *Salmonella* serovars in England; typhoidal *Salmonellae* (*S. Typhoid* and *S. Paratyphoid*) are available in the [Enteric fever annual reports](#).

## 1. Annual data 2009 to 2018

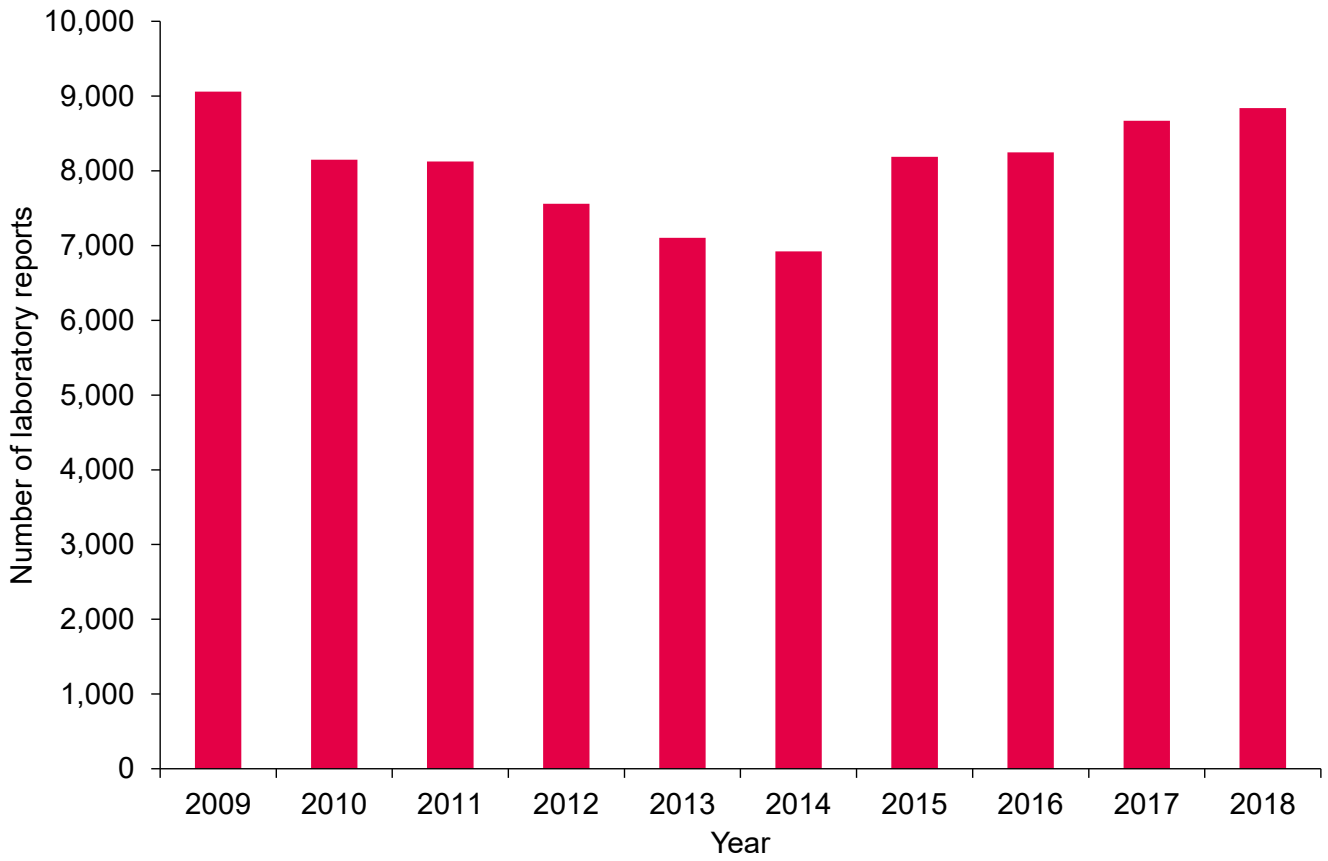
### a. All non-typhoidal *Salmonella*

**Table 1. Annual laboratory reports of non-typhoidal *Salmonella* in England from 2009 to 2018**

Year	Number of laboratory reports	Laboratory reports per 100,000 population
2009	9,060	17.36
2010	8,149	15.48
2011	8,124	15.30
2012	7,558	14.13
2013	7,104	13.19
2014	6,922	12.74
2015	8,188	14.95
2016	8,248	15.06
2017	8,670	15.59
2018	8,838	15.79

Figure 1 shows the trend of non-typhoidal *Salmonella* laboratory reports in England from 2009 to 2018.

**Figure 1. Annual laboratory reports of non-typhoidal *Salmonella* in England from 2009 to 2018**



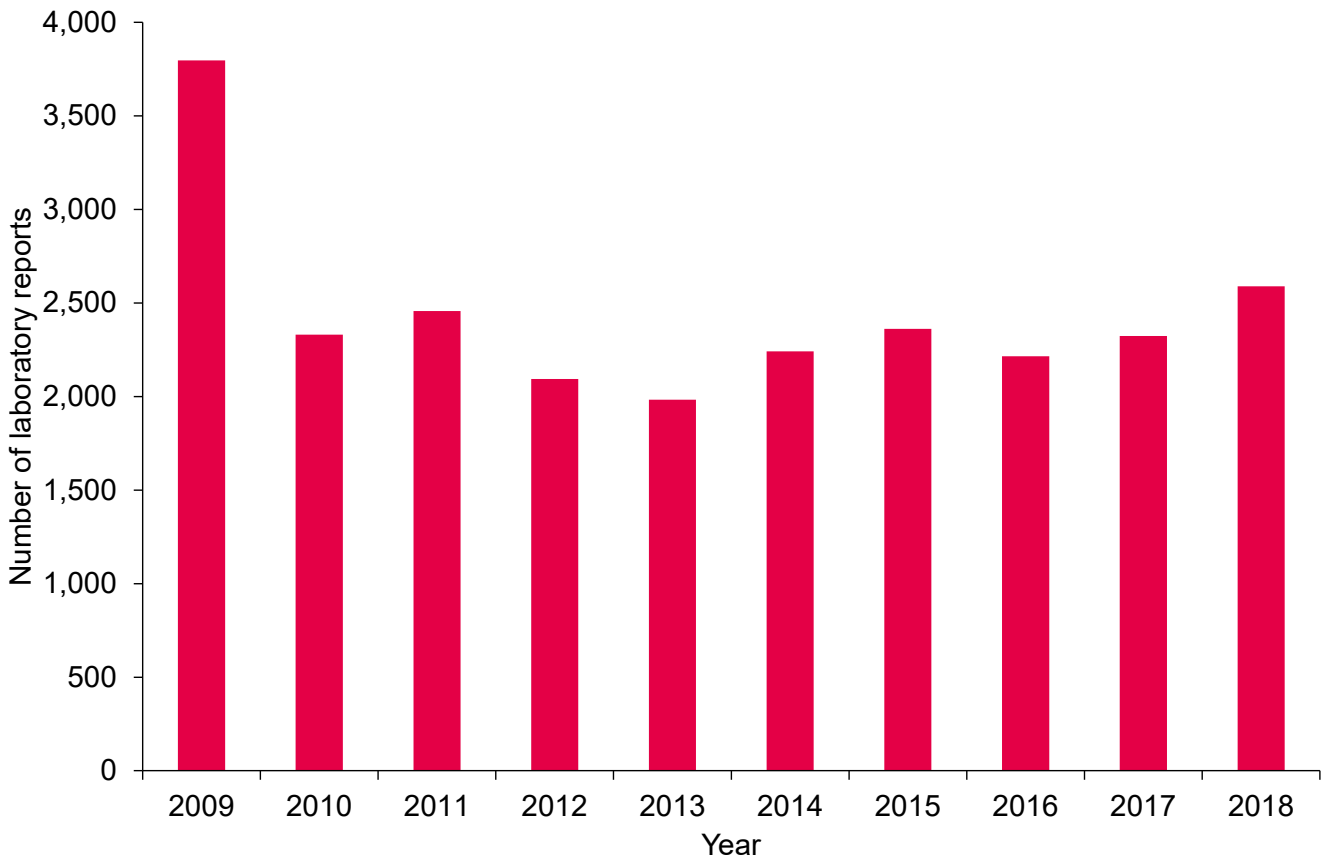
### b. Salmonella Enteritidis

**Table 2. Annual laboratory reports of Salmonella Enteritidis in England from 2009 to 2018**

Year	Number of laboratory reports	Laboratory reports per 100,000 population
2009	3,797	7.27
2010	2,331	4.43
2011	2,457	4.63
2012	2,094	3.91
2013	1,983	3.68
2014	2,242	4.13
2015	2,362	4.31
2016	2,215	4.04
2017	2,324	4.18
2018	2,589	4.63

Figure 2 shows the trend of Salmonella Enteritidis laboratory reports in England from 2009 to 2018.

**Figure 2. Annual laboratory reports of Salmonella Enteritidis in England from 2009 to 2018**



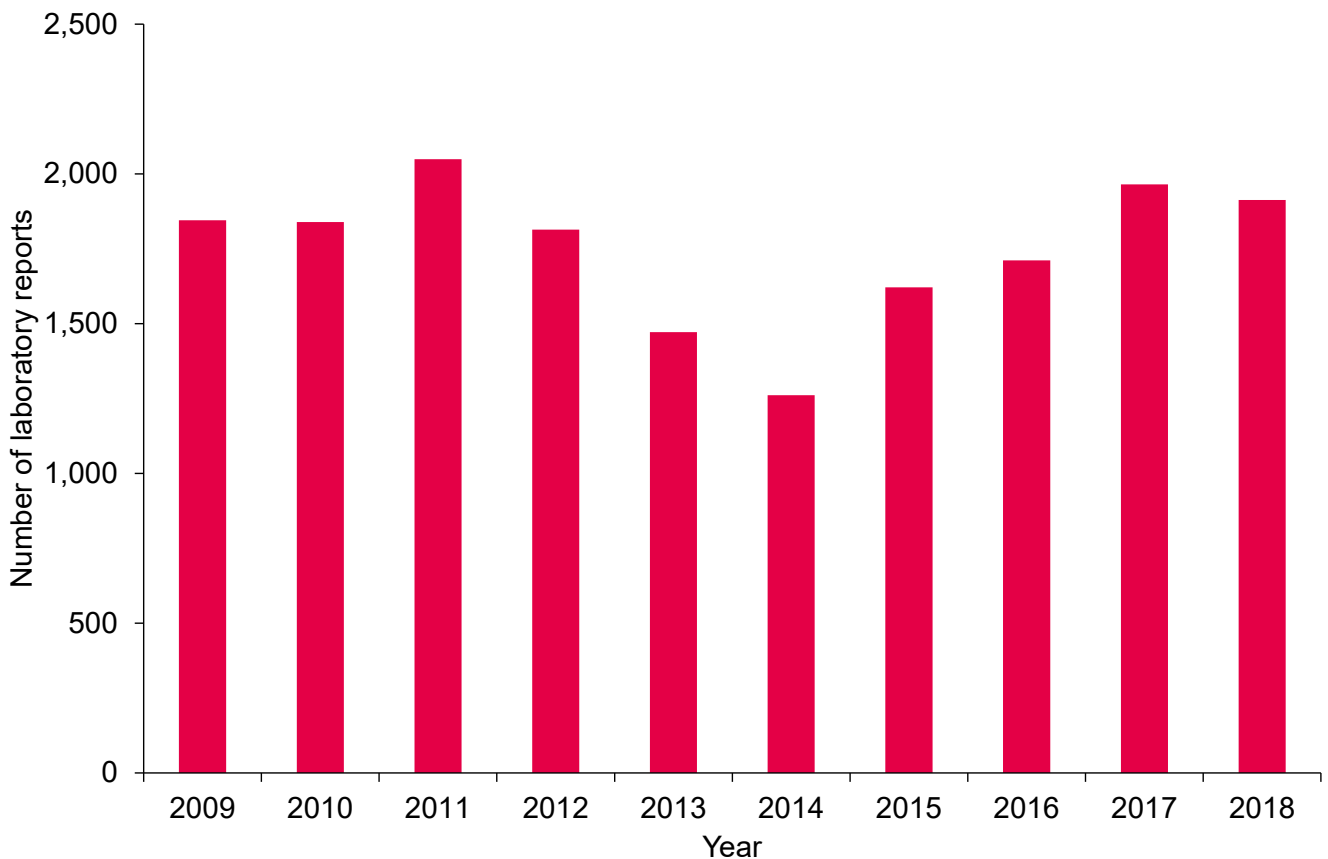
### c. *Salmonella* Typhimurium

**Table 3. Annual laboratory reports of *Salmonella* Typhimurium in England from 2009 to 2018**

Year	Number of laboratory reports	Laboratory reports per 100,000 population
2009	1,845	3.53
2010	1,839	3.49
2011	2,049	3.86
2012	1,814	3.39
2013	1,472	2.73
2014	1,261	2.32
2015	1,621	2.96
2016	1,711	3.12
2017	1,965	3.53
2018	1,913	3.43

Figure 3 shows the trend of *Salmonella* Typhimurium laboratory reports in England between from 2009 to 2018.

**Figure 3. Annual laboratory reports of *Salmonella* Typhimurium in England from 2009 to 2018**



## 2.Regional data

Table 4 displays the number of laboratory reports per region in 2018. In Table 4 regional classification is based on place of residence of reported cases and classified using NUTS1 codes.

**Table 4. Regional distribution of laboratory reports of non-typhoidal *Salmonella* in England in 2018**

Region	Laboratory reports
East Midlands	620
East of England	975
London	1,786
North East	410
North West	1,129
South East	1,296
South West	906
Yorkshire and The Humber	880
West Midlands	836

## 3.Top 10 *Salmonella* serovars in 2018

Table 5 displays the number of laboratory reports for the top ten most commonly reported *Salmonella* serovars in 2018.

**Table 5. List of top 10 non-typhoidal *Salmonella* serovars reported in England 2018**

Serovar	Laboratory reports
Enteritidis	2,589
Typhimurium	1,913
Newport	305
Infantis	235
Agona	231
Java	158
Stanley	154
Kentucky	154
Virchow	126
Braenderup	116

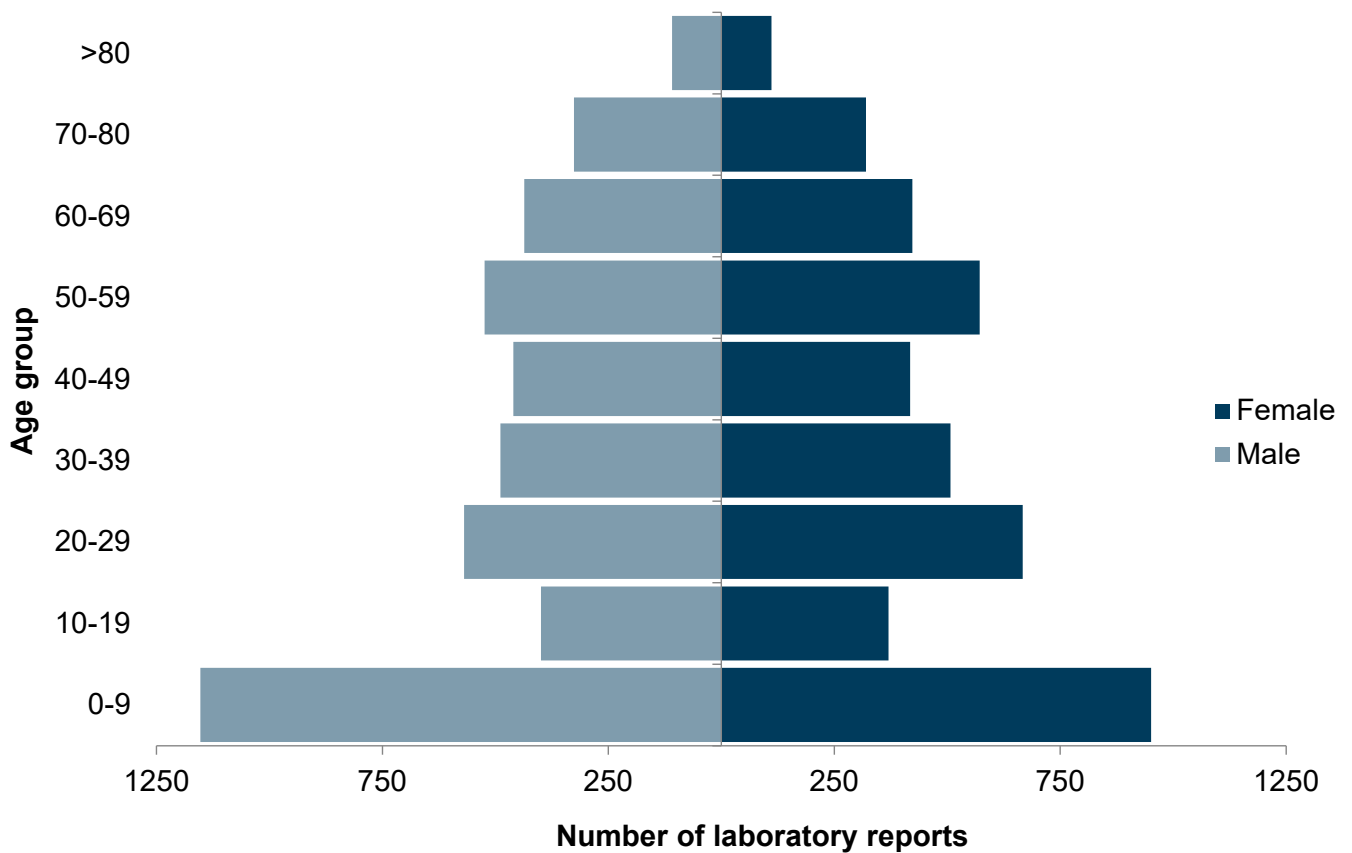


## 4. Age and sex distribution in 2018

### a. All non-typhoidal *Salmonella*

Figure 4 shows the age and sex distribution of non-typhoidal *Salmonella* laboratory reports in England in 2018. In this graph 34 laboratory reports were excluded where case age or sex was unknown.

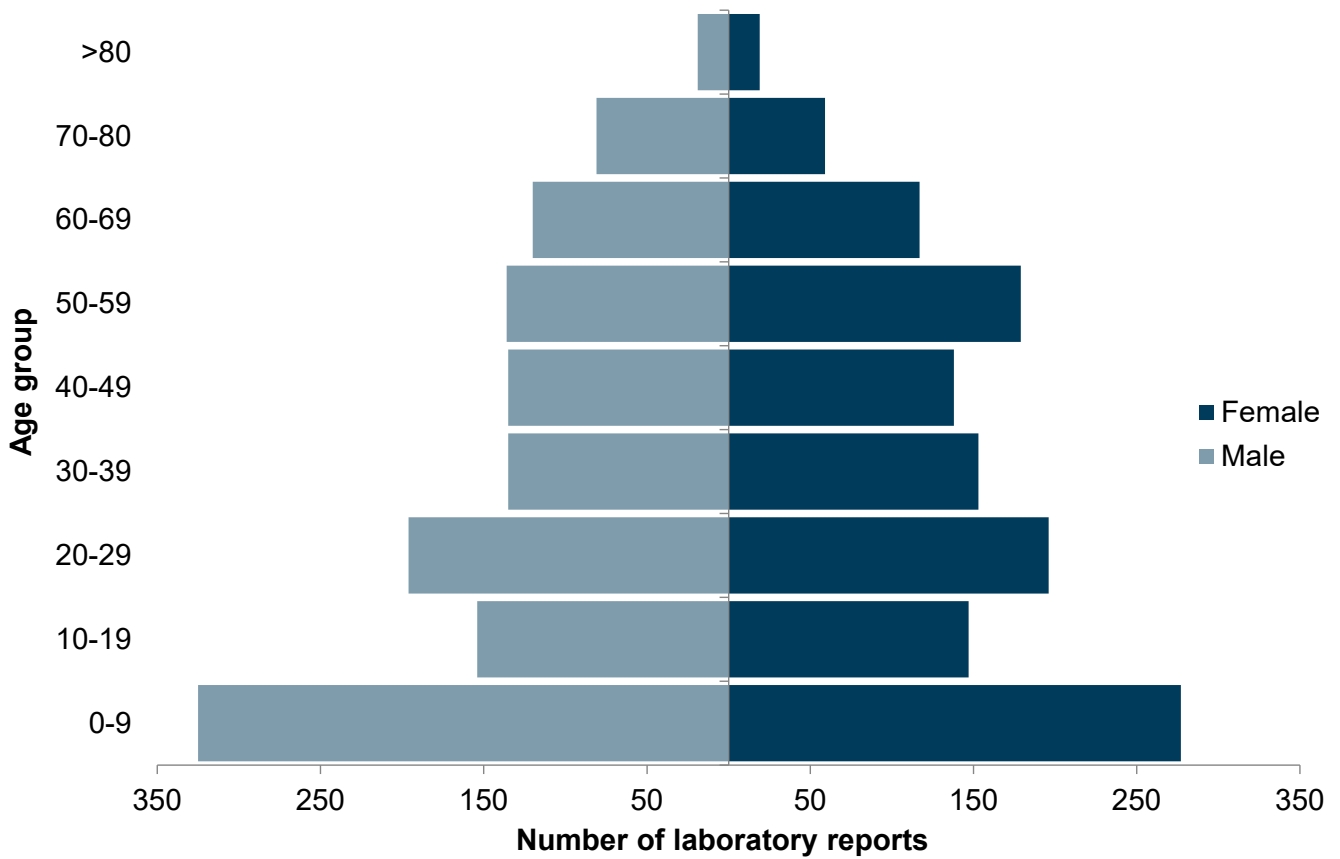
**Figure 4. Age and sex distribution of laboratory reports of non-typhoidal *Salmonella* in England in 2018**



### b. Salmonella Enteritidis

Figure 5 shows the age and sex distribution of *Salmonella* Enteritidis laboratory reports in England during 2018. In this graph 3 laboratory reports were excluded where case age or sex was unknown.

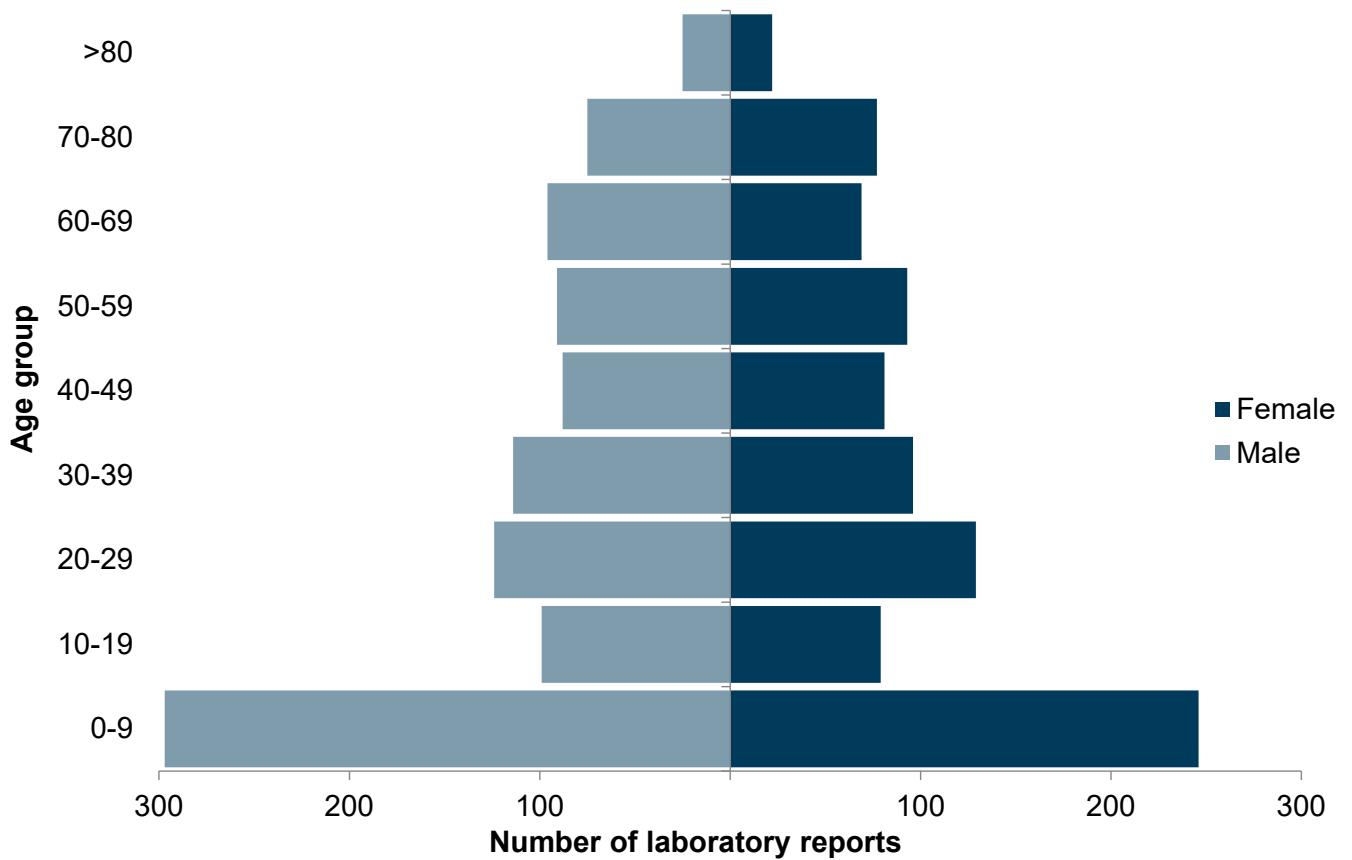
**Figure 5. Age and sex distribution of laboratory reports of *Salmonella* Enteritidis in England in 2018**



### c. *Salmonella* Typhimurium

Figure 6 shows the age and sex distribution of *Salmonella* Typhimurium laboratory reports in England during 2018. In this graph 12 laboratory reports were excluded where case age or sex was unknown.

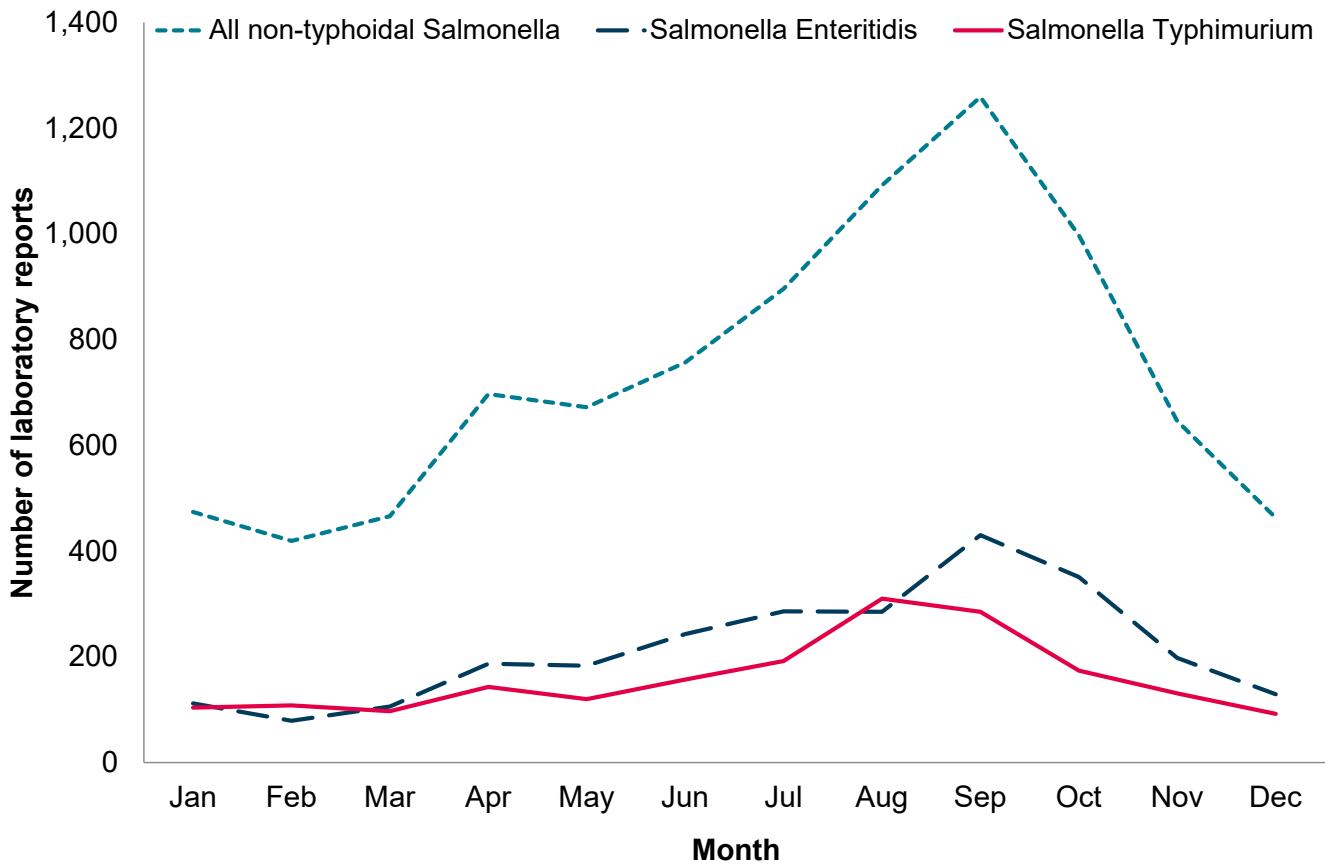
**Figure 6. Age and sex distribution of laboratory reports of *Salmonella* Typhimurium in England in 2018**



## 5. Seasonal variation in 2018

Figure 7 shows the seasonal trend of laboratory reporting for all non-typhoidal *Salmonella*, *Salmonella* Enteritidis and *Salmonella* Typhimurium in England during 2018 by month.

**Figure 7. Seasonality of laboratory reports of all non-typhoidal *Salmonella*, *Salmonella* Enteritidis and *Salmonella* Typhimurium in England in 2018**



## Foodborne outbreak data in 2018

**Table 6. Foodborne outbreaks of non-typhoidal *Salmonella* reported in England\* in 2018**

Agent	Total affected	Laboratory confirmed	Hospitalised **	Deaths **	Setting	Food description
<i>Salmonella</i> Typhimurium	226	226	19	0	Multiple places of exposure	Lamb
<i>Salmonella</i> Enteritidis	26	26	0	0	Multiple places of exposure	Eggs
<i>Salmonella</i> Agona	66	66	0	0	Multiple places of exposure	Vegetable
<i>Salmonella</i> Typhimurium	29	28	10	2	Multiple places of exposure	Pork
<i>Salmonella</i> Enteritidis	259	259	0	0	Multiple places of exposure	Eggs
<i>Salmonella</i> Stanley	3	3	0	0	Restaurant, café, pub, hotel or catering service	Unknown
<i>Salmonella</i> Bovis-morbificans	8	8	1	0	Restaurant, café, pub, hotel or catering service	Mixed red meat
<i>Salmonella</i> Typhimurium	3	3	0	0	Restaurant, café, pub, hotel or catering service	Unknown
<i>Salmonella</i> Typhimurium monophasic	31	15	1	0	Restaurant, café, pub, hotel or catering service	Pork

\*Number of cases is for cases resident in England and Wales as eFOSS covers outbreak surveillance for both countries

\*\*Clinical outcome not known for all cases; this only represents cases who have hospitalisations or deaths reported to national surveillance

## Data sources

This report was produced using data derived from the following data sources:

1. Public Health England's (now UK Health Security Agency) Second Generation Surveillance System (SGSS). This is a live laboratory reporting system therefore numbers are subject to change. In 2014, PHE upgraded the laboratory reporting system so direct comparisons between data reported from the previous system (LabBase2) and the new system (SGSS) may require cautious interpretation.
2. Electronic Foodborne and Non-Foodborne Gastrointestinal Outbreak Surveillance System (eFOSS).

## Acknowledgements

We are grateful to:

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- the epidemiologists and information officers who have worked on the national surveillance of intestinal infectious diseases.
- colleagues in the Gastrointestinal Bacterial Reference Unit (GBRU) for providing the Reference Laboratory Services and laboratory surveillance functions and expertise.
- PHE (now UKHSA) Information Management Department for maintenance and quality assurance of PHE national surveillance databases used for Gastrointestinal Infections (GI) pathogen surveillance at the national level.
- PHE (now UKHSA) Local Public Health Laboratories and Food Water and Environmental Microbiology Services for providing a surveillance function for GI pathogens and testing of food and environmental samples routinely and during outbreak investigations.
- all colleagues who have investigated and reported outbreaks to the Electronic Foodborne and Non-Foodborne Gastrointestinal Outbreak Surveillance System (eFOSS).

# About the UK Health Security Agency

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